

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the above-captioned patent application:

Listing of Claims:

1. (Canceled).

2. (Canceled).

3. (Canceled).

4. (Canceled).

5. (New) Leak detector according to the counterflow principle, comprising:

a first high vacuum pump having an entry side that is connected to an inlet of the leak detector;

a second high vacuum pump having an entry side which is connected to a mass spectrometer;

a primary pump having an entry side which is connected to exit sides of the first and second high vacuum pumps; and

a bypass connecting the inlet of the leak detector to the primary pump and including a first valve, wherein the first high vacuum pump is connected to the inlet of the leak detector in a non-throttled manner and without valving, wherein a second valve is provided between the exit side of the first high vacuum pump and the primary pump.

6. (New) Leak detector according to Claim 5, wherein the first high vacuum pump is started simultaneously with the opening of the second valve upon opening the first valve.

7. (New) Leak detector according to Claim 5, wherein the first high vacuum pump is activated only after the first valve has been opened when the pressure at the inlet has left the viscous flow range or fallen below a limit value.

8. (New) Leak detector according to Claim 5, wherein the second high vacuum pump further comprises at least one intermediate inlet connected to the exit side of the first high vacuum pump via a valve, said valve being dependently controlled based upon the pressure of the exit side of the first high vacuum pump.